

**REMARKS**

This responds to the Office Action mailed on April 4, 2007. Reconsideration is respectfully requested.

Claims 1, 2, 10-12, 21, 22, 25, 26, 28, and 29 are amended; as a result, claims 1 – 30 remain pending in this application.

**Submission of Formal Drawings**

Applicants submit herewith four sheets of formal drawings, with each drawing sheet containing the “REPLACEMENT SHEET” identifier. No amendments are made to the drawings. It is believed that the drawings are in compliance with 37 CFR 1.84.

**Objection to the Specification**

The Abstract was objected to as being too short and for having the application title. The abstract has been amended to overcome this objection.

**Allowable Subject Matter**

Claims 15-20 were allowed.

Claims 2-9, 12-14, 22-24, 26, 27, 29 and 30 were objected to as being dependent upon a rejected base claim, but were indicated to be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claim 2 has been rewritten in independent form including all of the limitations of the base claim 1 and is believed to be in condition for allowance. Claims 3 – 9 and 13 – 14 are believed to be allowable at least because of their dependency on claim 2.

Claim 12 has been rewritten in independent form including all of the limitations of the base claim 1 and intervening claim 10. Claim 12 is therefore believed to be in condition for allowance. Claim 11 has been amended to depend from claim 12 and is believed to be allowable at least because of its dependency on claim 12.

Claim 22 has been rewritten in independent form including all of the limitations of the base claim 21 and is believed to be in condition for allowance. Claims 23 - 24 are believed to be allowable at least because of their dependency on claim 22.

Claim 26 has been rewritten in independent form including all of the limitations of the base claim 25 and is believed to be in condition for allowance. Claim 27 is believed to be allowable at least because of its dependency on claim 26.

Claim 29 has been rewritten in independent form including all of the limitations of the base claim 28 and is believed to be in condition for allowance. Claim 30 is believed to be allowable at least because of its dependency on claim 29.

#### §102 Rejection of the Claims

Claims 1, 10 and 28 were rejected under 35 U.S.C. § 102(e) as being anticipated by Leung (U.S. 7,124,193). Applicants claims 1, 10 and 28 are directed to selecting a transmit power level and subcarrier modulation assignments for individual subcarriers of an orthogonal frequency division multiplexed (OFDM) signal. As recited in claims 1, 10, and 28, the selection is based on measured channel conditions to achieve a performance level for communications over an OFDM communication channel.

OFDM is a multicarrier communication technique in which a plurality of closely spaced orthogonal subcarriers are symbol modulated. Before transmission, the subcarriers may be modulated with a low-rate data stream. In OFDM, the transmitted symbol rate of the symbols on each subcarrier may be low, and thus the transmitted signal may be highly tolerant to multipath delay spread within the channel.

Applicants submit that Leung does not disclose selecting a transmit power level and subcarrier modulation assignments for *individual subcarriers* of an orthogonal frequency division multiplexed (OFDM) signal. Leung's teachings do not apply to a multicarrier communication technique, such as OFDM, because EGPRS uses GSM TDMA frames, which do not use a plurality of subcarriers to communicate. Leung discloses adapting the modulation and coding levels of an *entire link* (see Leung, column 4, lines 46 – 49).

According to the Examiner, Leung states that the frequency spectrum is divided into three frequency sets (per Leung column 8, lines 16 – 18). These frequency sets of Leung refer to a frequency reuse factor allowing the reuse of available spectrum in every cell. In other words, different cells use a different third of the available spectrum and there is no concurrent use of the

same spectrum in adjacent cells. Accordingly, these frequency sets of Leung can not correspond to Applicant's individual subcarriers. In OFDM, information symbols are concurrently transmitted on each of the data subcarriers.

Leung states that the AAC audio stream is divided into subbands using an audio filter bank using a 1024 point MDCT and that quantization noise (step size) is set separately in each subband (see Leung column 4, lines 64 – 67). Leung is separating an audio signal into different **audio** frequency bands (see Table II) so that they can be provided in ACC frames of different lengths (see column 5, lines 5 – 27 and table II). Short and long frames are used for different reasons (e.g., frequency resolution vs time dynamics). Applicants find no teaching, suggestion, or motivation in Leung that the different audio subbands are transmitted (over the air) using different frequency subcarriers. Thus Leung cannot anticipate Applicants' invention as recited in claims 1, 10, and 28.

Accordingly, Applicants submit that the rejection of claims 1, 10 and 28 under 35 U.S.C. § 102(e) has been overcome.

#### §103 Rejection of the Claims

Claim 11 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Leung in view of Dafesh (U.S. 7,120,198). Claim 11 has been amended to depend from claim 12, which was stated to be allowable, and is therefore believed to be allowable at least because of its dependency on claim 12.

Claim 21 was also rejected under 35 U.S.C. § 103(a) as being unpatentable over Leung in view of Cannella (U.S. 5,668,810). Cannella has been cited for disclosing a physical layer that determines signal level, modulation, and bandwidth.

Claim 25 was also rejected under 35 U.S.C. § 103(a) as being unpatentable over Leung in view of Doynov (U.S. 2002/0163495). Doynov has been cited for disclosing a physical layer and omnidirectional antenna.

Regarding claims 21 and 25, as discussed above, Applicants submit that Leung does not disclose selecting a transmit power level and subcarrier modulation assignments for **individual subcarriers** of an orthogonal frequency division multiplexed (OFDM) signal, as recited in claims

21 and 25. Therefore, combining Leung with either Cannella or Doynov does not result in Applicants' invention as recited in either claim 21 or 25.

In view of the above, Applicants submit that the rejections of claims 21 and 25 under 35 U.S.C. § 103(a) has been overcome.

### **RESERVATION OF RIGHTS**

In the interest of clarity and brevity, Applicant may not have addressed every assertion made in the Office Action. Applicant's silence regarding any such assertion does not constitute any admission or acquiescence. Applicant reserves all rights not exercised in connection with this response, such as the right to challenge or rebut any tacit or explicit characterization of any reference or of any of the present claims, the right to challenge or rebut any asserted factual or legal basis of any of the rejections, the right to swear behind any cited reference such as provided under 37 C.F.R. § 1.131 or otherwise, or the right to assert co-ownership of any cited reference. Applicant does not admit that any of the cited references or any other references of record are relevant to the present claims, or that they constitute prior art. To the extent that any rejection or assertion is based upon the Examiner's personal knowledge, rather than any objective evidence of record as manifested by a cited prior art reference, Applicant timely objects to such reliance on Official Notice, and reserves all rights to request that the Examiner provide a reference or affidavit in support of such assertion, as required by MPEP § 2144.03. Applicant reserves all rights to pursue any cancelled claims in a subsequent patent application claiming the benefit of priority of the present patent application, and to request rejoinder of any withdrawn claim, as required by MPEP § 821.04.

**CONCLUSION**

Applicant respectfully submits that the claims are in condition for allowance and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicant's attorney ((480) 659-3314) to facilitate prosecution of this application.

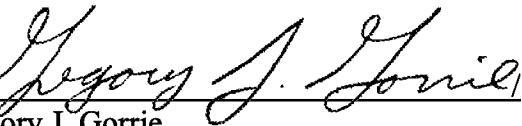
If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 19-0743.

Respectfully submitted,

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